

Claims

What is claimed is:

1. A method of diagnosing a hypophosphatemic condition in a mammal, said method comprising (a) obtaining a biological sample from the mammal and (b) contacting the biological sample with a reagent which detects the presence or absence of a mutation in a nucleic acid encoding FGF7 wherein the presence of said mutation is an indication that the mammal is afflicted with the hypophosphatemic condition.
2. The method of claim 1, wherein the biological sample is selected from the group consisting of blood and urine.
3. The method of claim 1, wherein the reagent is a nucleic acid.
4. The method of claim 1, wherein the reagent is detectably labeled.
5. The method of claim 1, wherein the reagent is detectably labeled with a label selected from the group consisting of a radioisotope, a bioluminescent compound, a chemiluminescent compound, a fluorescent compound, a metal chelate, and an enzyme.
6. A method of diagnosing a hypophosphatemic condition in a mammal, said method comprising (a) obtaining a biological sample from said mammal and (b) contacting the biological sample with a reagent which detects the presence or absence of a mutant form of FGF7 polypeptide, wherein the presence of the mutant form of FGF7 polypeptide is an indication that the mammal is afflicted with the hypophosphatemic condition.
7. The method of claim 6, wherein the biological sample is selected from the group consisting of blood and urine.
8. The method of claim 6, wherein the reagent is an antibody.
9. A method of diagnosing a hypophosphatemic condition in a mammal, said method comprising (a) obtaining a biological sample from the mammal and (b) contacting the biological sample with a reagent that detects the level of FGF7 polypeptide in the sample, wherein an elevated level of FGF7 polypeptide in the sample, relative to the level of FGF7 polypeptide in a sample obtained from a control mammal, is an indication that the mammal is afflicted with said hypophosphatemic condition.

10. The method of claim 9, wherein the biological sample is selected from the group consisting of blood and urine.
11. The method of claim 9, wherein the reagent is an FGF7 antibody.
12. The method of claim 9, wherein the reagent is detectably labeled.
13. The method of claim 9, wherein the reagent is detectably labeled with a label selected from the group consisting of a radioisotope, a bioluminescent compound, a chemiluminescent compound, a fluorescent compound, a metal chelate, and an enzyme.
14. A method of diagnosing osteomalacia in a patient, said method comprising (a) obtaining a biological sample from the patient and (b) detecting the expression or lack thereof of FGF7 in the sample, wherein the expression of FGF7 is indicative of osteomalacia.
15. A method of treating a hypophosphatemic condition in a mammal, said method comprising administering to a mammal afflicted with the disorder a therapeutically effective amount of a FGF7 inhibitor selected from the group consisting of an inhibitor which reduces the level of mRNA encoding FGF7 polypeptide in the mammal, an inhibitor which reduces the level of FGF7 polypeptide in the mammal, and an inhibitor of the biological activity of FGF7 in the mammal.
16. The method of claim 15, wherein said inhibitor is selected from the group consisting of an antisense nucleic acid, a ribozyme, an antibody, a small molecule, a peptide, and a peptidomimetic.
17. A method of treating a hyperphosphatemic condition in a mammal, said method comprising administering to a mammal afflicted with the disorder a therapeutically effective amount of an isolated nucleic acid encoding FGF7.
18. The method of claim 17, wherein said isolated nucleic acid comprises a mutation that confers increased stability to the FGF7 polypeptide encoded thereby.
19. A method of treating a hyperphosphatemic condition in a mammal, said method comprising administering to a mammal afflicted with the disorder a therapeutically effective amount of an isolated FGF7 polypeptide.
20. The method of claim 19, wherein, the FGF7 polypeptide comprises a mutation that confers

increased stability to said FGF7 polypeptide.

21. A method of treating a hyperphosphatemic condition in a mammal, said method comprising administering to the mammal afflicted with, a therapeutically effective amount of a reagent that increases the level of FGF7 polypeptide in said mammal.

22. The method of claim 21, wherein said reagent inhibits degradation of said FGF7 polypeptide.

23. A method of treating a hyperphosphatemic condition in a mammal, said method comprising administering to a mammal afflicted with, a therapeutically effective amount of a population of cells comprising an isolated nucleic acid encoding FGF7.

24. The method of claim 23, wherein said isolated nucleic acid comprises a mutation that confers increased stability on said FGF7 encoded thereby.

25. A method of treating a condition involving deposition of calcium and phosphate in the arteries or soft tissues of a mammal, said method comprising administering to said mammal a therapeutically effective amount of FGF7 or a reagent that increases the level of FGF7 polypeptide.